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ABSTRACT

Beyond the usual knowledge of subject matter, the key contribution which the liberal arts can make to teacher preparation is in helping teachers develop good judgment, not only in general, but in how they present, re-present, and represent their knowledge to students. This paper explores how the liberal arts and sciences and the teacher education fields can come together to produce knowledgeable, effective teachers. The common wisdom concerning the role of the liberal arts in teacher preparation is explored, along with some of the essential contributions, and important limitations of these contributions. The often overlooked concept of the structure of knowledge as a key feature of the contribution of the liberal arts to the teacher education curriculum is elaborated upon. This paper goes beyond the static concept of the structure of knowledge to an examination of a dynamic concept of ways of knowing, or the notion of judging. (CB)

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THE LIBERAL ARTS AND SCIENCES IN THE TEACHER EDUCATION CURRICULUM

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The Liberal Arts and Sciences in the Teacher Education Curriculum*

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Recently, Lee Shulman has challenged the old Shavian dictum that "Those who can, do; those who cannot, teach." Shulman's reformulation is, "Those who can, do; those who understand, teach" (1986). Although clearly a step in the right direction, Shulman does not go far enough. Teachers not only need to understand what they teach, they must also do something with that understanding in the classroom so that students can learn. We all know of knowledgeable persons who understand a subject very well, but cannot teach it. What is that something which transforms understanding into the activity of teaching?

In order to answer that question, I will do three things in this paper. First, I will explore the common wisdom concerning the role of the liberal arts in teacher preparation. I will look at both some of the essential contributions as well as at some of the important limitations of these contributions. Second, I will elaborate on the often overlooked concept of the structure of knowledge as a key feature of the contribution of the liberal arts to the teacher education curriculum. Finally, I will go beyond the static concept of the structure of knowledge to an examination of a dynamic concept of ways of knowing, or, in more prosaic terms, the notion of judging. This idea of good judgment in teaching is a

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concept which, I believe, can uniquely integrate the liberal arts and teacher preparation.

I will approach this task with the aid of three important recent commentaries on teaching. These are the Holmes Group Report, Tomorrow's Teachers (1986), the Report of the Task Force of the Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and Affiliated Private Universities, "Teacher Education and the Liberal Arts" (1986), and Lee Shulman's, "Those Who Understand: Knowledge Growth in Teaching" (1986).

Let me turn first to the Holmes Group Report, Tomorrow's Teachers. The Holmes Group is a consortium of Deans of Education at about forty of the major research universities in the country. Tomorrow's Teachers is the report which serves as the basis for the consortium's invitation currently being considered by the Deans and Chief Academic Officers of 123 of the top public and private research institutions across the country, to join in an educational reform agenda over the next five years. This report, prepared by the deans, with the assistance of a number of top scholars and policy makers in education, focuses both on improvements in teacher education at these unique institutions as well as on improvements in the teaching profession itself. Indeed, one of the unique features of the Holmes Group report is the clear recognition of the enormous complexity and interrelatedness of the problems of education in this country. One can scarcely attack one part of the system without affecting the other parts.

The Holmes Group agenda has five major goals:

1. To make the education of teachers intellectually more solid;

2. To recognize differences in teachers' knowledge, skill, and commitment, in their education, certification, and work;

3. To create standards of entry to the profession--examinations and educational requirements -- that are professionally relevant and intellectually defensible;

4. To connect research institutions to schools, and,

5. To make schools better places for teachers to work, and to learn.

Although the details of the Holmes Group agenda are complex, controversial, and important, it is not my purpose here to review these in detail. Rather, I want to concentrate on those which flow from the first goal of making the education of teachers intellectually more solid.

The elaboration of this goal begins with a critique of the performance of colleges of education including those in the major research universities. The report acknowledges the deficiencies in all too many education programs and issues a clear call for the abolition of the undergraduate teacher education major and the necessity for a solid liberal arts baccalaureate degree in the field (or fields) in which the teacher will be teaching. This is to apply to elementary education majors as well as secondary education majors. The Holmes Group is thus firmly behind the calls for making teacher preparation more intellectually rigorous. The Group clearly believes that teachers must know what they teach, and know it at least as well as the average college educated person in the country--hence, the call for a baccalaureate liberal arts major. Many reformers hold this view; indeed, some believe that a good liberal arts education is <u>all</u> that is needed by way of teacher preparation.

However, unlike many reformers who note the difficulties involved in teachers' colleges, the Holmes Group does not endorse what it calls the "bright person" model of teacher preparation. This model, in its simplest form, asserts that the way to improve teaching is to attract reasonably intelligent persons, give them a solid liberal arts education, some

practical experience in the schools, and then turn them loose. Maybe we should throw in a little educational psychology and classroom management, but not much more.

Although it accepts the necessity for the solid liberal arts education, the Holmes Group criticizes this conception as being insufficient. First, although the reasonably intelligent person who knows a subject well can probably concoct some sort of reasonable presentation of the subject suitable for some kind of audience, such a person can seldom go beyond this kind of one-way presentation. The Holmes Group insists that truly professional teachers must be able to assess the suitability of their lessons to their students. They must be able to modify them for different audiences and different levels of sophistication. They must be able to diagnose individual student problems and devise appropriate alternatives, and so on. Perhaps these skills are not well taught currently in schools and colleges of education, but they are not even addressed in liberal arts curricula, nor are they likely simply to be picked up on the job.

A second line of criticism of the bright person model of teaching is directed at the liberal arts component itself. At least as currently conceived and practiced, liberal arts education is nearly as awful as the education which goes in the high schools. Perhaps it is even worse, since we as a society are less given to college-bashing than we are to school-bashing, and so the inadequacies of what passes for liberal arts education are less well-known. Yet the same problems exist in the colleges as in the schools. The problems have been pointed out in a series of reports from the National Institute of Education's, Investment In Learning (1984) to the Association of American Colleges' Integrity in the College Curricula (1985).

In its critique the Holmes Group focuses first on the fragmentation of knowledge associated with the departmental structure so prevalent in American higher education. Whatever might be said for this organizational structure as facilitating the growth of disciplinary knowledge, it certainly does not seem to be very helpful for integrating and presenting the knowledge envisioned by most advocates of liberal education. This is, of course, not a new criticism, but it is given special significance when one reflects upon the extent to which teachers, above all other professionals in our society, need to have an integrated view of knowledge.

Second, the Holmes Group notes the extent to which courses in the disciplines seem to have the very narrow functions of either preparing one for more advanced work in the disciplines, or, perhaps, at best, for entry level jobs in that discipline. Again, the integrative ideal of the liberal arts is lost.

Third, as others have argued as well, the Holmes Group suggests that far too much teaching in the liberal arts is, quite simply, dreadful. It is probably worse in research universities where there are pressures away from teaching and toward narrow disciplinary scholarship and where all too often instruction is carried on by graduate students, many of whom have difficulty speaking English. However, the situation is seldom much better in liberal arts colleges, and when it is, it may be less because of good teaching and more a result of the kinds of students who attend liberal arts colleges. They are usually bright and self-motivated and can learn from reasonably coherent one-way presentations of subject matter. The danger, according to the Holmes Group, is that such students will mistake this modeling of a fairly specialized kind of teaching to a homogeneous group of bright students for good teaching in general. Let there be no mistake here. For good or ill, school teachers tend to model the kind of teaching

they have had. Thus no matter what the attempts at imparting good pedagogy by colleges and schools of education, if their liberal arts teaching is narrow, one-way, or even incompetent, teachers will likely perpetuate that kind of teaching in their own classrooms. Finally, the Holmes Group criticizes the undergraduate liberal arts programs for "a lack of curricular coherence and an avoidance of a core of enduring and fundamental ideas of the sort that the National Endowment for the Humanities cites in To Reclaim a Legacy. Yet the mastery of such a core is perhaps more important for teachers, especially elementary school teachers, than for any other professional group. All professionals use knowledge in their work, but teaching -- insofar as it is not simply career counseling and social work -- is actually about knowledge." (Holmes, 1986, p. 47)

The report goes on to say:

> "The traditional course of study in an academic major, in its premature rush to specialization and vocational preparation, often fails to elaborate the structure of the discipline, its origins and goals; and ignores criteria that cause some issues to merit deep study and others to be merely interesting or trivial. These areas, slighted in traditional programs, are of fundamental importance to education in general and to teachers in particular." (Holmes, 1986, p. 48)

This reference to the structure of the discipline, to the core ideas, to the origins and goals of the discipline is a long way from the popular, but naive proposition that, in some sense, teachers must know the content they teach. Of course they must, but to the extent that they should know

the structure of the discipline, teachers should know their content in a deeper sense than even the regular majors in the discipline.

Thus, a traditional liberal arts major may be necessary for teacher preparation, but it is clearly not sufficient. It is not sufficient in at least two ways. First, it does not address the issue of being able to teach that knowledge to different audiences in different contexts, using different approaches. Second, if the recent criticisms of liberal education are on target, liberal education too seldom addresses the core notions of knowledge, how it is organized and validated, and why it is important.

The notion of the structure of a discipline or organized body of knowledge is also a key feature of the report of the Task Force on Teacher Education and the Liberal Arts of the Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and Affiliated Private Universities (Land Grant Deans). This report stresses the complexity and depth of the contribution of liberal arts to teacher preparation, urging that this contribution goes far beyond the simple-minded demand that, for example, biology teachers must know biology.

The report picks out four major areas in which a liberal education should contribute to teacher preparation. These are: general education, higher order cognitive and affective skills, the traditional content areas, and even that most suspect of pedagogical areas, methods of teaching.

Teachers need to be at least as generally well-educated as the better educated members of our society. As the Task Force puts it:

> The general education portion of a teacher preparation program serves four critical functions: extension and expansion of the knowledge base formed in high school,

> introduction to scientific and artistic modes of inquiry and expression, refinement and extension of personal and societal values, and cultivation of each student's ability to communicate in an informed and reflective manner -- most particularly through writing.

The Task Force also reflects the growing awareness of the importance of the so-called higher order skills. Interestingly, the focus is broader than the typical, problem-solving, reasoning skills approach so often found in discussions of this sort. The Task Force suggests that an historically earlier conception of liberal education provides a needed counterpoint to the current overly rationalistic and discipline-based conceptions of higher order skills. This earlier conception is that of the development of a complete person. What we have come to call the "affective domain" is thus seen as an integral part of a truly liberal education. Compassion, character, caring, and concern must be connected to problem solving and decision-making. Historically, such concerns have been very important to liberal education. They must not be forgotten.

The Task Force sees the problem here in similar terms to the Holmes Group. Because of the discipline-based, departmental organization of much of higher education, the curriculum of a liberal education is typically fragmented into a series of distribution requirements. So many courses in humanities, so many in the physical and social sciences, so many in mathematics, and so on. Seldom is explicit attention paid to the integrative function of the higher order cognitive and affective skills. The Task Force agrees with the Holmes Group that significant reforms of liberal education are needed if it is to make a real contribution to teacher preparation.

When the Land Grant Deans Task Force looks to the traditional content areas, the report appears less sanguine than the Holmes Group about the desirability of academic majors, at least as currently conceived, for elementary school teachers. Both groups agree on the need for secondary school teachers to major in the subjects they will teach, but the argument is not nearly so compelling for elementary teachers in the Task Force report.

There are two reasons for this -- one pragmatic and one educational. The pragmatic concern revolves around the fact that, as currently structured, the work of elementary teachers requires them to teach everything to a single class. How could they possibly major in all of the subjects they teach, especially considering that most college majors would consist of "content" far too advanced for elementary school pupils. The educational reason is connected to the criticism noted above of some conceptions of liberal education as being overly rationalistic. It is urged on both psychological and social grounds that elementary schools tend to be far more effective than secondary schools precisely because they treat the child as a whole person rather than as a set of boxes to be filled with discrete skills and bits of knowledge.

At the same time, the Land Grant Deans Task Force suggests that one way of attacking the problem of teacher preparation for all teachers, but especially for elementary teachers, is through a concentration on the structures of the disciplines. The report says:

> "Neither elementary nor secondary teachers need to know all of the technical details of a discipline required of the practitioners of that discipline. They would, however, profit enormously from understanding the various ways of knowing which human beings have

> developed and which are reflected in the basic structures of the disciplines. For example, scientific method and processes of discovery, inference, and justification are crucial for understanding science; the ideas of counting, correspondence, and operation are central to mathematics; and so on. However, it is not obvious that the structure of a discipline can be learned only, or even at all, simply by learning more and more of the content of the field. The challenge is to design courses in the various disciplines that can help teachers understand the concepts, methodologies, and criteria of validity in each field and discipline and allow them to place their own specific teaching in these contexts. Thus, not only should teachers generally learn more than they will teach, they should learn the structure or philosophy of what they teach." (Task Force, 1986, p. 18)

Knowing the structure of the knowledge they teach can be of great assistance to how teachers teach. The so-called "methods" of teaching need to focus not only on general pedagogical principles, but also on what is being taught. Methods courses need to consider how best to present the fundamental notions of a subject, how to formulate those ideas in understandable terms, how to reformulate them if they are not understood, and how to relate them to the current state of the student's understanding. The very methods of teaching a subject are related to the structure of that subject.

Thus, we see in the Task Force report as we saw in the Holmes Group report a call for a contribution to teacher preparation from the liberal arts and sciences in the area of the structures of knowledge, the philosophy of the disciplines. Such an area may be important for all liberal arts graduates, but it is especially critical for teacher preparation, and it is typically overlooked by the liberal arts.

Just what is this notion of the structure of the disciplines? And why is it so important for teacher preparation? Lee Shulman (1986) has recently addressed this question in a most interesting way.

In the course of an essay describing his research program in knowledge growth in teaching, Shulman traces the history of the current distinction between content knowledge and pedagogical knowledge. He argues that this distinction is relatively recent and has left us with a huge gap in our approach to teacher preparation. Much interesting work has recently been done in general pedagogy in such areas as time on task, direct instruction, questioning strategies, and so on. These are important findings, Shulman agrees, but to focus solely on general pedagogy misses central questions of content -- questions which historically were tied closely to teaching. Indeed, as Shulman notes, the way in which one demonstrated the highest levels of subject matter knowledge in the early universities was by <u>teaching</u> that knowledge in the doctoral examinations.

The way in which Shulman approaches the connection of pedagogical knowledge to content knowledge is as follows:

> "Our central question concerns the transition from expert student to novice teacher. How does the successful college student transform his or her expertise in the subject matter into a form that high school students can comprehend? When this novice

> teacher confronts flawed or muddled textbook chapters or befuddled students, how does he or she employ content expertise to generate new explanations, representations, or clarifications? What are the sources of analogies, metaphors, examples, demonstrations, and rephrasings? How does the novice teacher (or even the seasoned veteran) draw on expertise in the subject matter in the process of teaching? What pedagogical prices are paid when the teacher's subject matter competence is itself compromised by deficiencies of prior education or ability?" (Shulman, 1986, p. 8)

In order to address these questions, Shulman distinguishes three kinds of content-related knowledge in the minds of teachers -- content knowledge, pedagogical content knowledge, and curricular knowledge.

Content knowledge for Shulman includes not only the facts and concepts in a given body of knowledge, but also how they are organized. The organization includes such things as what the core concepts are, the methods of discovery and verification of new truths, exemplary experiments, results, and cases, and a sense of how to judge competing claims regarding phenomena. It also includes a knowledge of alternative organizations for a given subject area. For example, the different ways of organizing biology as a science of molecules, a science of organisms, or a science of ecological systems can each be considered as a structure of the discipline. It would follow from this characterization of content knowledge that anyone who possesses it would understand not only <u>what</u> is the case, but also <u>why</u> it is the case. It would also be possible for anyone with this kind of

content knowledge to tell why a given topic was central to a discipline and why another was peripheral.

Pedagogical content knowledge expands on content knowledge in the direction of those aspects which are particularly germane for teaching the content. Shulman identifies two major sub-categories -- first, the most useful forms of metaphors or representations of a subject and, second, the features which render any given topic more or less easy to teach or understand. An example of a powerful metaphor in Newtonian mechanics would be the world as a system of billiard balls, or, in a geometry, of a point as a pencil sharpened even sharper than one could sharpen it. With respect to the issue of typical difficulties, an example might be the fact that even most college students believe that if one gave a puck a push on an infinite, frictionless air hockey table, eventually the force imparted to the puck would "wear out" and the puck would stop moving. That is, students tend, incorrectly, to hold an impetus theory of motion rather than a Newtonian one. In any event, it is clear that this sort of pedagogical content knowledge would be of enormous help to prospective teachers. It is knowledge which the liberal arts could help bring to the methods of teaching.

In the area of curricular knowledge, Shulman includes a knowledge of the various materials and techniques of teaching the subject and lateral and vertical knowledge of curriculum. An example of knowledge of materials would be a compendium of basal reading series, what central features each has, and how they might be supplemented by primary sources, reading games, and so on. Knowledge of lateral curriculum would involve knowing how a unit on ecology in the sciences might relate with a topic on statistics in mathematics and a module on political decision making in social studies. Knowledge of the vertical curriculum means knowing what went before, say,

in mathematics, and what is to come afterwards. Simple as this sounds there are numerous cases in which the fourth grade teachers do not know what either the third or fifth grade teachers are doing.

Although not all curricular knowledge is, perhaps, the province of the liberal arts segment of teacher preparation, it certainly is a form of content knowledge. As such, it could well profit from attention by both liberal arts and education faculty.

Thus, one conclusion which can be drawn from a consideration of the Holmes Group report, the Land Grant Deans' Task Force report and Shulman's discussion of content knowledge is that the structure of knowledge is critical for teacher preparation. Furthermore, the elaboration of the concept of the structure of knowledge seems to place it largely within the liberal arts portion of teacher education, yet, it is a part of liberal education which is, to my knowledge, often overlooked.

What I want to do now is to carry the discussion one step further. Even if one were to include the structure of knowledge in teacher preparation in the manner in which I have been discussing, it would not be enough. Teachers would still need to know how to put all of this together to make intelligent instructional decisions. How do they do that?

Shulman hints at the problem when he goes on to discuss the <u>forms</u> teachers' knowledge might take in addition to the kinds of that knowledge I have just been elaborating. He distinguishes three forms of teacher knowledge -- propositional knowledge, case knowledge, and strategic knowledge.

Propositional knowledge is just what it sounds like -- knowledge of the propositions we formulate about content and pedagogy. These would include individual facts, basic postulates or principles, maxims, and normative guidelines. It is knowledge which can be written down however

much subject to exceptions and qualifications it might be. "2 + 2 = 4", "To every action there is an equal and opposite reaction", "Don't let the students distract you from the lesson," "We ought to provide both excellence and equity".

Case knowledge is a form of perceptual knowledge which allows us to categorize instances. This is a case of that. This classroom is simply normally active, that one is out of control. This videotape of a serious discussion illustrates critical thought by the students, that discussion was dominated by the teacher. The swing of a pendulum is a case of constrained fall. To learn to recognize instances as falling under different concepts is a key part of attaining knowledge in any field. Indeed, it may be that what education needs most of all are exemplary cases of the central concepts of pedagogy, both general pedagogy and content pedagogy.

Strategic knowledge, as Shulman describes it, is that knowledge which is used to decide what to do in particular cases. (Aristotle calls this kind of knowledge, practical knowledge.) It is used when principles collide, when a situation can be seen as a case of x or a case of y and we need to decide how to treat it. In short, strategic knowledge for teachers is that which enables them to make the myriad non-trivial decisions they make each day regarding the actual conduct of teaching.

Yet even this description of strategic knowledge is possibly misleading. It makes the knowledge sound as if it were a "thing" along with content knowledge and case knowledge more or less sitting in the teacher's mind waiting to be used to mediate among competing principles, maxims, concepts and the rest of our knowledge structure. However, such a conception seems to miss the point of the problem which was supposed to have been solved by strategic knowledge in the first place.

The notion of the structure of the disciplines was introduced as a way to characterize the understanding which is needed to bind together an otherwise random assortment of facts, concepts, and principles into an intelligible whole. I argued that this kind of knowledge was not often emphasized as a contribution of the liberal arts to teacher preparation, although it should be. But even given this notion of the structure of knowledge as understanding why things are as they are (what Aristotle calls theoretical knowledge), a problem remains. The problem is that there are alternative ways of understanding a given situation. It follows that the issue becomes one of how to choose wisely among the variety of alternative ways of understanding the situation and to act upon that choice.

This knowledge, strategic knowledge in Shulman's terms and practical knowledge in Aristotle's terms, is of a different order than theoretical knowledge, or understanding. Theoretical knowledge can still be characterized as propositional knowledge. Practical knowledge, however, is connected to decision and action. Shulman senses this difference in a fascinating footnote to his discussion of strategic knowledge. He says:

> It may well be that what I am calling strategic knowledge in this paper is not knowledge in the same sense as propositional and case knowledge. Strategic "knowing" or judgment may simply be a process of analysis, of comparing and constrasting principles, cases, and their implications for practice. Once such strategic processing has been employed, the results are either stored in terms of a new proposition (e.g., "Smiling before Christmas may be permissible when...") or a new case. These then enter the repertoire of cases and principles to be used like any others. In

that sense, it is possible that strategic analysis occurs in the presence of the other forms of knowledge and is the primary means for testing, extending, and amending them." (Shulman, 1986, p. 14)

I am less sanguine than Shulman about the strategic processing being transformed into propositional or case knowledge, at least in any way that would aid our understanding of teaching. However, I do believe that the suggested move away from structures of knowledge to the processes of knowing is exactly right. Indeed I have argued the necessity for such a move on philosophical grounds in The Dilemma of Enquiry and Learning (1981). What I want to do here is to suggest some of the benefits for the relationship of the liberal arts to teacher preparation of conceiving of at least strategic knowledge as a process of knowing rather than as a structure of knowledge.

The key notion here is that of judgment. What is it about what good teachers know and do that results in a judgment to choose this book or that, this example or that? How do they decide whether or not to review the unit on fractions one more day or to press on?

What is judgment? Is it, in fact, a list of propositions? Of judgments written down somewhere? In its primary sense, I think not. There are people who exercise good judgment, but who cannot often write down, or even articulate any set of propositions which constitutes that judgment. There are other people who do try to write down good judgments. They are the authors of the innumerable "how-to" books which, as we know, at best take us only a very little way toward developing our own good judgment. This is why I am somewhat skeptical of Shulman's belief that converting strategic knowing into propositions will be of much help.

"Never smile until Christmas, usually." It is the knowledge of when to break the rule that constitutes good judgment and that judgment cannot, in principle, ever be specified with such completeness that we could simply make the rule explicit, but more complex. The reason is that judgment is a process, and not basically a proposition.

But neither is the process of judging entirely mysterious because we cannot specify its contents explicitly in the form of propositions, rules, or maxims. Teachers who have good judgment usually have a pretty good idea of what they want to accomplish. They also have a good case knowledge in Shulman's terms. For example, they can tell when a given class is understanding a point and when it is not. They have good curricular knowledge, too, so they can draw on a variety of techniques to try to move the student or students closer to what they want. They are also good monitors, in the sense that they can see if what they have tried works, and, if not, they change it accordingly. They can deal with novelty in appropriate ways because they do have a larger vision. They are not bound to rigid recipes, although in standard situations they will pretty much do what the how-to books say. However, it is the ability to go beyond the standard procedures when called for that is the mark of the person with good judgment.

The foregoing analysis leads to the following conclusions. The essence of judgment is the ability to reconcile in practice competing principles or maxims in light of some larger vision or goal. Judgment is not propositional, but practical. As practical, it is not procedural or technical in the sense of following explicit rules laid down by someone else. Rather it is value-laden. Judgment depends on a larger vision to give it point and purpose, and that larger vision reflects the values of the teacher. Finally, progress toward that vision is constantly being

monitored and adjustments made in response to the monitoring.

How does this work in specific situations? Shulman (1986, p. 13) gives the example of the principle of employing longer waiting times after asking a question to promote higher levels of cognitive processing potentially conflicting with the principle of keeping the classroom pace quick to avoid discipline problems. The point is that one cannot predict when a teacher using good judgment should do one and when the other. Indeed, a teacher with good judgment will sometimes do one and sometimes the other. Under the analysis I have given of judging, the teacher is constantly monitoring the situation for evidence of learning. As students seem puzzled, perhaps talkative, but about the lesson, the teacher will probably use the longer wait times. On the other hand, if the talk veers away from the lesson, then the potential for discipline problems becomes more salient and the teacher hurries along, perhaps returning to the puzzling aspects later in the lesson or the next day.

Principles in the form of propositions can be provided, but except in extremely routine cases, putting these principles into the form of explicit recipes is not very helpful. It is the great failing of much educational policy-making to fail to appreciate this point and to assume that if only we could analyze teaching with sufficient detail, we could provide teacher-proof curricula, that is, specific instructions to be followed by teachers to guarantee learning. In anything as complex as teaching, that just does not work.

What then can the liberal arts contribute to teacher preparation by way of developing good judgment. A number of things come to mind. As Shulman suggests, case studies are extremely important. People do need practice in learning to see concrete situations as falling under certain

principles and concepts. Interestingly, the humanities have long been simulating case studies through literature and history and the like. It is in the humanities that we get rich enough descriptions so that we can see what it would really be like in concrete day to day terms to see our situation in certain ways. Clearly role-playing and video modules could also be helpful here.

Furthermore, the liberal arts tend to be very good at allowing us to check out our perceptions and principles against those of others. This occurs through dialogue and discussion, through written work which is then criticized. The ability of the liberal arts to get us to take on alternative points of view is also important in this regard. Teachers will never be able to exercise good judgment if they always see things in the same routinized sorts of ways. A good liberal arts education presents a variety of conceptions of the good life and allows the student to try them on for size, at least vicariously. These come to be sources for the larger visions which teachers must have in pursuit of which they exercise their judgments.

Finally, the liberal arts aim at helping us lead fuller and more complete lives. That is an active, process-oriented concept. Teaching aims at the same thing. We cannot rest content with a passive concept of the acquisition of structures of knowledge. It is only insofar as we <u>use</u> those structures that learning and teaching have their point. The necessity for exercising good judgment brings thought and action together. Bringing thought and action together also brings us close to the character-development conceptions of the function of liberal education. This conception is to be contrasted with the more recent disciplinary-based conception of liberal education, which seems to result, at best, in a student who understands the discipline. I have been arguing that teachers

in particular need not only to understand their subjects, but know what they ought to do in certain teaching situations and do it.

In sum, beyond the usual knowledge of subject matter, the key contribution which the liberal arts can make to teacher preparation is in helping teachers develop good judgment, not only in general, but in how they present, re-present, and represent their knowledge to students. Probably it is in such activities that liberal arts faculty and teacher education faculty can come together with practicing mentor teachers to show student teachers how truly exciting teaching can be, if only we do it thoughtfully and well.

Good judgment can be taught, but not as a list of propositions or recipes. It is rather an activity informed by knowledge, enriched by practical experience, and enlightened by clearly understood and well-tested values. Can the liberal arts reform themselves to make such teaching possible? Can teacher education forge the new alliances which will be necessary to integrate content and pedagogy? Let us hope so, for if they cannot, the whole of education may well be in jeopardy.

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